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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

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OFFICE OF
PREVENTION, PESTICIDES
AND TOXIC SUBSTANCES

OPP OFFICIAL RECORD
HEALTH EFFECTS DIVISION
SCIENTIFIC DATA REVIEWS
EPA SERIES 361

MEMORANDUM

Date: 7/09/2009

Subject: **Oxamyl**. Label Amendments: Reducing Plant-Back Interval (PBI) for Wheat Forage, Hay, and Straw; Expansion of Geographical Use Sites to National for Onion; Increase Number of Applications in Mint; Expand Term to Muskmelon from Melon; Transplant Water Treatment for Eggplant and Tomato; Apple thinning.

PC Code:	103801	**DP Barcodes:**	342667 & 351369
Decision Nos:	381394 & 391612	**Registration Nos:**	352-532 & 352-372
Petition No.:	6F7136	**Regulatory Action:**	Label Amendment
Risk Assessment Type:	NA	**Case No.:**	NA
TXR No.:	NA	**CAS No.:**	23135-22-0
MRID No.:	NA	**40 CFR**	§180.303

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Registration Action Branch 6 (RAB6)
Health Effects Division (HED, 7509P)

Through: Felicia Fort, Branch Chief Felicia Fort
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To: Thomas Harris, Risk Manager Reviewer
Insecticide/Rodenticide Branch (IRB)/Registration Division (IRB/RD) (7505P)
Registration Division (7505P)

Executive Summary

Oxamyl is a carbamate insecticide, acaricide, miticide, and nematocide. Tolerances for residues of oxamyl are expressed in terms of the combined residues of insecticide oxamyl, methyl *N,N*-dimethyl-*N*-[(methylcarbamoyl)-oxy]-1-thiooxamimidate, and its oxime metabolite methyl *N,N*-dimethyl-*N*-hydroxy-1-thiooxamimidate calculated as oxamyl in/on the following plant commodities [40 CFR §180.303]: apple, banana, cantaloupe, carrot, celery, cotton, cucumber, eggplant, citrus (group 10), garlic, onion (dry bulb), peanut, peanut hay, pear, peppermint, bell pepper, non-bell pepper, pineapple, pineapple processed residue, pumpkin, soybean seed, spearmint, summer squash, winter squash, tomato, tuberous and corm vegetable (subgroup 1C) and watermelon. Oxamyl may be applied preplant, at planting, or postemergence on the above crops by foliar treatment using aerial or ground equipment. Oxamyl is sold in the U.S. as a

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soluble liquid concentrate (SC/L) under the trade name Vydate® by E.I. du Pont de Nemours and Company (DuPont). The 2.0 and 3.77 lbs/gal SC/L formulations are the oxamyl formulations presently registered for food/feed uses.

HED is tasked by RD to evaluate a request for a rotational crop tolerance on wheat forage, hay and straw resulting from a request to shorten plant back interval (PBI) to 30 days. Additional label amendment requests on onion (expansion of use from regional to national), mint (increase number of applications), melon (expand term to muskmelon) and eggplant and tomato (transplant water treatment) and apple (thinning) were also submitted that are evaluated in this document. The HED's decisions in this document have already been incorporated in the aggregate dietary (food + drinking water) risk assessment (Sahafeyan, M., DP#364708, 12-MAY-2009).

Wheat:

DuPont is requesting to amend the product label for Vydate® C-LV (EPA Reg. No. 352-532) and Vydate® L (EPA Reg. No. 352-372) to propose a PBI of 30 days for wheat which consequentially requires a tolerance on wheat forage, hay and straw; the proposed tolerance is 0.2 ppm.

At present, a 4-month PBI is on the labels with no rotational crop tolerance required as long as the maximum total seasonal application rate does not exceed 12 lbs a.i./A. Currently, all oxamyl products with food/feed uses specify a 4-month PBI and seasonal application rates are <12 lbs a.i./A.

No new data have been submitted in conjunction with this petition. In support of the current petition, the registrant has referenced a previously submitted study (MRID 47078401) which was reviewed by D. Miller (D192109, 8/10/1994). In the referenced study, only limited field rotational crop studies with 30-day PBI had been conducted for wheat and oats (with the 2 lb/gal SC/L formulation at a maximum proposed seasonal rate of 12 lbs a.i./A) which had resulted in 2 wheat forage samples, 1 oat forage sample, and 1 sample each for wheat grain, oat grain, wheat straw and oat straw samples. However, per OPPTS residue chemistry test guidelines (860.1900), 2 field trials for grain crops should have been conducted which would have resulted in 4 samples per commodity/feed item. The combined residues (parent + oxime metabolite) in parent equivalent for forage samples were <0.02 ppm and 0.068 ppm and for the wheat seed, <0.02 ppm, for oat grain and the straw samples were less than the limit of detection, LOD (<0.02 ppm). Per OPPTS residue chemistry test guidelines (860.1900) if quantifiable residues are found in the limited field rotational crop studies, rotational crop tolerances will be required. "The requirement for number of trials would be the same as that to establish primary tolerances on all crops or crop groups which a registrant intends to have as rotational crops on the label." Until such time that all the required data are available the Agency can not establish any tolerance on wheat grain, forage and straw.

Conclusion: The proposed PBI reduction for wheat is rejected due to the lack of required data.

Onion:

DuPont is requesting to amend the product label for Vydate® L (EPA Reg. No. 352-372) to extend the restricted use of onion from nine 24(c) registrations (CA820068, ID830019, ID95009,

MI84005, NM810021, OR810033, OR8300250, TX810046 and WA83008) to U.S. national use at the maximum 8 applications per season, not to exceed a total seasonal rate of 4.5 lbs a.i./A (2.25 gallons of formulation containing 2 lbs a.i./gallon) and with a variety of use patterns including foliar application [ground, a.i.r (min. 5 gal water/A), overhead sprinkler chemigation], drip chemigation, in-furrow, broadcast or as a band applications at early stage (2-3 leaf), or at planting, with 14-21 day retreatment intervals and 14-day PHI. Wetting agents are allowed on the label and buffering to pH 5 or less is recommended. The label includes onion (dry bulb only), garlic and shallots. The current tolerance on onion is at 0.2 ppm.

The registrant submitted the results of 12 field trial studies on bulb onions previously which was reviewed by D. Miller (D209731, 10/25/1995). The results of those studies as it appears in Miller's review are in the following table.

Table 1: Combined residues of oxamyl and its oxime metabolite in/on dry bulb onions following application of the 2 lb/gal SC/L formulation.

Test Site No. and Site Location	Treatment 1 [a] Residues (ppm)	Treatment 2 [b] Residues (ppm)	Comments
1. Madera, CA	0.0269, 0.0279, 0.0304	0.0236, 0.135, 0.150, 0.107, 0.180	
2. Donna, TX	<0.020, <0.020, 0.0271	<0.020, <0.020, <0.020	
3. Winterville, GA	<0.020, <0.020, <0.020	<0.020, <0.020, <0.020	
4. Sodus, NY	<0.020, 0.0240, 0.0279	0.0317, 0.0343, 0.0648	
5. Eaton, CO	--	--	Test terminated due to poor crop development.
6. Kimberly, ID	<0.020, 0.0333, 0.0374	<0.020, 0.0288, 0.0371,	
7. Las Cruces, NM	<0.020, <0.020, <0.020	<0.020, <0.020, <0.020	

a Treatment 1 - Oxamyl was applied as an in-furrow banded application at 4 lb a.i./A followed by four foliar broadcast applications at 0.5 lb a.i./A/application, resulting in a total application of 6 lb a.i./A, using ground equipment.

b Treatment 2 - Oxamyl was applied as an in-furrow drench application at 2 lb a.i./A followed by eight foliar broadcast applications at 0.5 lb a.i./A/application, resulting in a total application of 6 lb a.i./A, using ground equipment.

In the submitted field trial studies, combined residues of oxamyl and its oxime metabolite were <0.02-0.18 ppm in/on bulb onions harvested 14 days following an in-furrow drench application at 2 lbs a.i./A and eight foliar applications at 0.5 lb a.i./A/application. A second treatment regime, one in-furrow banded application at 4 lb a.i./A followed by four foliar applications at 0.5 lb a.i./A/application, resulted in below-tolerance residues (<0.02-0.0374 ppm) in/on onions harvested 14 days post treatment.

The submitted field trial data supports the requested use rate (maximum of 8 applications per season, not to exceed a total seasonal rate of 4.5 lbs a.i./A and a 14-day PHI) and national use. The current tolerance of 0.2 ppm does not need be changed.

Conclusion: According to 40 CFR, 180.1, the submitted field trial data can be used for onion (dry bulbs only) and includes garlic, onions (dry bulbs only), shallots (dry bulbs only). The number (8 field trials, 16 samples) and location of field trials support the national use of onion with the requested use rate.

Mint

DuPont is requesting to amend the product label for Vydate® L (EPA Reg. No. 352-372) to propose 3 applications per year (currently at maximum of 2 applications per season) at the total rate of 2 gals/acre/year (currently at 2 gal/acre/season) and with the pre-harvest interval of 21 days (currently at the same interval, 21 days). The new proposed label, also allows for fall application after harvest in addition to spring.

Conclusion: The residue chemistry data base supports the proposed change in the mint use pattern; no additional data are required.

Cantaloupe

DuPont is requesting to expand the use from "cantaloupe" to "muskmelon" which includes true cantaloupe, cantaloupe, casaba, crenshaw melon, golden pershaw melon, honeydew melon, honey balls, mango melon, Persian melon, pineapple melon, Santa Claus melon, and snake melon. At present both cantaloupe and watermelon are registered uses with cantaloupe being a representative crop subgroup 9-A which includes muskmelon. Therefore, the residue data base supports expansion of use to muskmelon.

Conclusion: The residue chemistry data base supports the proposed expansion from cantaloupe to muskmelon; no additional data are required.

Eggplant, Tomato

DuPont is requesting to amend the product label for Vydate® L (EPA Reg. No. 352-372) to propose for addition of transplant water treatment, i.e., application by ground in furrow during transplant operation. The rate for this application is lower than current soil or foliar treatment. The total rate and PHI for both eggplant and tomato stays the same as in the current label.

Conclusion: The residue chemistry data base supports the proposed addition of transplant water treatment; no additional data are required.

Apple Thinning

DuPont is requesting to amend the product label for Vydate® L (EPA Reg. No. 352-372) to extend the restricted apple thinning practice from the current states of NJ, PA, VA, WV to national use. No residue chemistry issue is foreseen with this expansion of thinning practice.

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